	Application No.	Applicant(s)
Notice of Allowability	09/521,424	WAKAO ET AL.
	Examiner	Art Unit	
	Thomas M. Ho	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *5/31/07*.

2. ☒ The allowed claim(s) is/are *38-42,48-50,56-58,64-66 and 72-77*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some*   c) ☐ None of the:

     1. ☐ Certified copies of the priority documents have been received.

     2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

     3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

     1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
   Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER

<center>*Examiner's Amendment*</center>

1.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

Brian Klock on 6/12/07.

38.   (Currently Amended) An apparatus for generating additional data used to
check whether an encoded digital image is changed or not, the apparatus comprising:

a calculation unit which (a) performs a predetermined calculation using the
encoded digital image and confidential information, ~~wherein the predetermined
calculation does not include either using a hash function or encryption using the
confidential information,~~ and (b) generates the additional data by applying a one-way
function to a result of the predetermined calculation; and

a recording unit which records both the encoded digital image and the additional
data on a recording medium,

<u>wherein the confidential information includes (a) first information unique to the
apparatus, and (b) second information unique to an external apparatus connected to the
apparatus.</u>

39.   (Currently Amended) An apparatus for checking whether an encoded
digital image is changed or not, the apparatus comprising:

an inputting unit which inputs both the encoded digital image and first additional data, ~~wherein~~ the first additional data ~~is~~ being used to check whether the encoded digital image is changed or not; and

a calculation unit which (a) performs a predetermined calculation using the encoded digital image and confidential information, ~~wherein the predetermined calculation does not include either using a hash function or encryption using the confidential information,~~ (b) generates second additional data by applying a one-way function to a result of the predetermined calculation, and (c) checks whether the encoded digital image is changed or not using the first additional data and the second additional data,

wherein the confidential information includes (a) first information unique to a first apparatus which generates the first additional data, and (b) second information unique to a second apparatus connected to the first apparatus.

40.   (Currently Amended) A method of generating additional data used to check whether an encoded digital image is changed or not, the method comprising the steps of:

performing a predetermined calculation using the encoded digital image and confidential information, ~~wherein the predetermined calculation does not include either using a hash function or encryption using the confidential information~~;

generating the additional data by applying a one-way function to a result of the predetermined calculation; and

recording both the encoded digital image and the additional data on a recording medium,

wherein the confidential information includes (a) first information unique to a first apparatus which performs the predetermined calculation, and (b) second information unique to a second apparatus connected to the first apparatus.

41.   (Currently Amended) A method of checking whether an encoded digital image is changed or not, the method comprising the steps of:

inputting both the encoded digital image and first additional data, ~~wherein~~ the first additional data ~~is~~ being used to check whether the encoded digital image is changed or not;

performing a predetermined calculation using the encoded digital image and confidential information, ~~wherein the predetermined calculation does not include either using a hash function or encryption using the confidential information~~;

generating second additional data by applying a one-way function to a result of the predetermined calculation; and

checking whether the encoded digital image is changed or not using the first additional data and the second additional data,

wherein the confidential information includes (a) first information unique to a first apparatus which generates the first additional data, and (b) second information unique to a second apparatus connected to the first apparatus.

56.   (Currently Amended) An apparatus according to claim 39, wherein the encoded digital image and the first additional data are generated in the first apparatus, and the first apparatus is an apparatus which operates as a digital camera.

57.   (Currently Amended) An apparatus according to claim 39, wherein the encoded digital image and the first additional data are generated in the first apparatus, and the first apparatus is an apparatus which operates as a scanner.

72.   A method according to claim 41, wherein the encoded digital image and the first additional data are generated in the first apparatus, and the first apparatus is an apparatus which operates as a digital camera.

73.   A method according to claim 41, wherein the encoded digital image and the first additional data are generated in the first apparatus, and the first apparatus is an apparatus which operates as a scanner.

Reasons for Allowance

2.   The Applicant has amended:

38.   (Currently Amended) An apparatus for generating additional data used to check whether an encoded digital image is changed or not, the apparatus comprising:

a calculation unit which (a) performs a predetermined calculation using the encoded digital image and confidential information, wherein the predetermined calculation does not include either using a hash function or encryption using the confidential information, and (b) generates the additional data by applying a one-way function to a result of the predetermined calculation; and

a recording unit which records both the encoded digital image and the additional data on a recording medium,

wherein the confidential information includes (a) first information unique to the apparatus, and (b) second information unique to an external apparatus connected to the apparatus.

The prior art of record fails to disclose an embodiment wherein the confidential information includes

- first information unique to the apparatus

- second information unique to an external apparatus connected to the apparatus.

Applicant's claim is directed towards a calculation unit which performs a predetermined calculation using a digital image and confidential information. The prior art of record previously used Natarajan US patent 6611599 and Friedman 5499294 are directed towards a method of generating a digital watermark from an image data. Friedman for example takes an image and then generates watermarking data. A watermark as understood in the art is an encryption process that often uses a public or private key.

Watermarks may also include additional data such as hash data, or the identification of the picture or the digital camera used to take the image.

However, Applicant's claim recites a predetermined calculation, and then generating additional data by applying a one way function to the result of the predetermined calculation, said predetermined calculation having used confidential information in the computation. Thus

Applicant's claim has recited a two stage pipeline. In response to the this, the Examiner found and applied the Natarajan reference.

The Natarajan reference along with other searches of the prior art was able to recite the limitations of the claim as long as the interpretation of the confidential information was interpreted to be a private key, a hash, or a singular aspect of private data.

However a search of the prior art has not uncovered the recitation wherein the confidential information includes

- first information unique to the apparatus

- second information unique to an external apparatus connected to the apparatus.

It is important to note that during prosecution of this case, the term "using" as applied to performing the predetermined calculation using the encoded digital image and confidential information is not to be interpreted as a nominal usage. It is understood rather to a be a predetermined function which employs two arguments in its computation, the encoded digital image and the confidential information.

It is furthermore important to note that the confidential information is understood to be confidential. The Examiner withdrew the basis of the rejection established by Friedman on 12/17/03 because the Applicant argued the following in the arguments of 4/27/04:

The Office Action asserts that "textual information (e.g., serial number, date, time, GPS location, etc.") of Friedman corresponds to the claimed confidential information. However, such information is not confidential. Accordingly, Applicants submit that Friedman fails to disclose or suggest at least the feature of performing a predetermined calculation using a digital image and confidential information.
For the foregoing reasons, Applicants submit that independent Claims 38-41 are patentable over the cited art. The dependent claims are believed patentable for at least the same reasons as the independent claims, as well as for the additional features they recite.

Thus it is understood the first and second information unique to the apparatus is not a mere

"serial number.", but a piece of information unique to the apparatus that is furthermore

confidential.

It is with these interpretations of the limitations that reason claim 38 has overcome the prior art

of record and is allowable.

Claims 39-41 are allowable for the same reasons as claim 38.

Claims 42, 48-50, 56-58, 64-66, 72-77 are allowable because their independent claims are

allowable.

Conclusion

3.   The following art not relied upon is made of record:

- US patent 6647126 Wen, discloses the authorization of digital images from digital

  images.

4.   Any inquiry concerning this communication from the examiner should be directed to

Thomas M Ho whose telephone number is (571)272-3835. The examiner can normally be

reached on M-F from 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Gilberto Barron can be reached on **(571)272-3799.**

The Examiner may also be reached through email through Thomas.Ho6@uspto.gov

Any inquiry of a general nature or relating to the status of this application or proceeding should

be directed to the receptionist whose telephone number is (571)272-2100.

General Information/Receptionist   Telephone: 571-272-2100   Fax: 571-273-8300

Customer Service Representative   Telephone: 571-272-2100   Fax: 571-273-8300

TMH

June 23rd, 2007

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER